

**Janet H. Vail**  
Robert B. Annis Water Resources Institute  
Grand Valley State University  
740 W. Shoreline Drive, Muskegon, Michigan 49441  
(616) 331-3048 vailj@gvsu.edu

### **Educational Record**

Ph.D. in Science Education (Environmental Education), Western Michigan University  
Dissertation topic: *Fecal coliform bacteria as a water quality indicator*  
M.A. in Science Education, Western Michigan University  
Legal Assistant Certificate, (with honor), University of California, Santa Cruz  
M.A. in Biology (Ecology), University of California, Santa Barbara  
B.S. in Biology (Botany), (with Class Honors), University of Michigan  
Teaching Certification: Michigan Permanent Secondary Credential, California Life Secondary and Elementary Credentials

### **Current Professional Status**

#### **Associate Professor of Water Resources/Research Scientist, Outreach & Education**

Grand Valley State University Robert B. Annis Water Resources Institute, 1990-present  
Supervisor of aquatic education instructors aboard two research vessels, workshop coordinator, curriculum developer, Michigan Project WET (Water Education for Teachers) State Coordinator, GLOBE training coordinator. Also served as a Research Associate and Manager of a Pollution Prevention Outreach Program for Business and Industry, and editor of an air permit manual for Michigan.

### **Professional Experience**

#### **Adjunct Professor in Engineering**

Grand Valley State University, School of Engineering  
Teaching responsibilities included a Masters Degree course in Engineering Law, Ethics, and the Environment

#### **Environmental Scientist**

WW Engineering & Science, Grand Rapids, Michigan  
Affiliated with the Environmental Compliance group; conducted industrial and commercial environmental site assessments; updated hazardous waste management plans; prepared groundwater and surface water (NPDES) permit applications; conducted wetland studies; wrote environmental impact reports for municipal projects.

#### **Adjunct Instructor**

Grand Valley State University, Allendale, Michigan  
Environmental science lecturer; general biology, ecology, and systematic botany laboratory instructor.

#### **Wayne State University, Department of Chemical Engineering**

Grand Rapids, Michigan Campus  
Taught courses for hazardous materials management certificate program

#### **Water Quality Technician**

Santa Cruz County Environmental Health Department, Santa Cruz, California  
Conducted program measuring impacts of wastewater disposal on surface and groundwater quality; performed chemical and bacteriological tests; maintained computer database.

#### **High School Science Teacher**

Conejo Valley Unified School District, Thousand Oaks, California  
Taught high school chemistry, biology, natural history, and physical science teacher for 13 years.

### **Current Appointments**

- Co-Chair, U.S. Environmental Protection Agency Lake Michigan Forum
- Chair, Lake Michigan: State of the Lake '99, '01, and '03 Conferences
- Certified GLOBE, Project Learning Tree, Project WILD, Project WET trainer
- Michigan Project WET (Water Education for Teachers) State Coordinator for National Program
- Regional Math and Science Center Advisory Committee
- Muskegon Environmental Coordinating Council Committee Chair
- Member, Lake Michigan Monitoring Coordination Council
- Member, Michigan Department of Environmental Quality Environmental Advisory Council
- Steering Committee, Great Lakes Association of Science Ships

### **Representative Publications and Presentations**

- Vail, J.H. Toxic Releases in the Grand River Watershed: 1987-1989, Grand Valley State University, 1990.
- Vail, J.H. The Hazards of Hazardous Materials, *Furniture Design & Manufacturing*, December 1991.
- Vail, J.H. Toxic Releases in the Grand River Watershed: 1992, Grand Valley State University, 1993
- Vail, J.H. West Michigan Pollution Prevention Project: Business helping business, Paper at National Roundtable of State Pollution Prevention Programs, Nashville, Tennessee, 1993
- Vail, J.H. Point Source Discharges to Water in the Grand River Watershed, Grand Valley State University, 1993
- Vail, J.H. Surface Finishing and the Toxics Release Inventory, Paper at American Electroplaters and Surface Finishers Society Pollution Prevention Conference, Orlando, Florida, 1994
- Vail, J.H. Regional Pollution Prevention Initiative, Paper at HazMat 94, Long Beach, California, April 1994.
- Vail, J.H. Building and Sustaining Business Coalitions for Protection of Watersheds, Presentation for the Canadian Ministry of the Environment, Toronto, Canada, September 1994.
- Vail, J.H. Accessing and Analyzing the Toxics Release Inventory, Paper at Toxics Release Inventory Data Use Conference 1994, Boston, Massachusetts, 1994
- Vail, J.H. Michigan Guide to Air Use Permits to Install, Michigan Department of Environmental Quality, Lansing, Michigan, 1994
- Vail, J.H. The Toxics Release Inventory: A Real World Resource for Environmental Educators, Paper at Air & Waste Management Association 88th Annual Meeting, June 1995.
- Vail, J.H., editor, Michigan Air Use Permit Technical Manual, Michigan Department of Environmental Quality, Lansing, Michigan 1995.
- Vail, J.H. Perspectives on Fecal Coliform and *E. coli* Bacteria Monitoring, Paper at Global Rivers Environmental Education Network Conference '96, Ann Arbor, 1996.
- Vail, J.H. Holistic Aquatic Education: Great Lakes, Lakes and Rivers, Paper at Water Resources Education, Training, and Practice, American Water Resources Association Conference, Keystone, Colorado, 1997
- Vail, J.H. Fecal Coliform Bacteria as a Water Quality Indicator, Paper at International Association for Great Lakes Research, 2000
- Vail, J.H. Great Lakes Beaches: Protect the Legacy, Presentation at Great Lakes Beach Conference, Chicago, Illinois, 2001
- Ram, J.L, R. Morgan, and J.H. Vail. 3M Petrifilm as a Medium for Volunteer Monitoring of Waterborne *Escherichia coli*, Paper at Monitoring and Modeling Nonpoint Source Pollution in Agricultural Landscapes, 2001
- Vail, J.H. GLOBE Ozone Monitoring Pilot Project, Presentation at Michigan Space Grant Consortium, 2001
- Vail, J.H., editor. Instructor's Manual for Scientific Educational Cruises aboard the *D.J. Angus* and *W.G. Jackson* Vessels, Grand Valley State University, 2002

- Vail, J.H., editor. Teacher's Manual for Scientific Educational Cruises aboard the *D.J. Angus* and *W.G. Jackson* Vessels, Grand Valley State University, 2001
- Vail, J.H., R. Morgan, and J.L. Ram. Enumeration of *Escherichia coli* using 3M Petrifilm Plates: Comparison to Standard Water Quality Methods, Journal of Environmental Quality 32: 368-373, 2003
- Vail, J.H., Volunteer Monitoring: *E. coli* and Fecal Coliform Bacteria. Lakeline 23(2): 33-35, 2003.

### **Ongoing Education and Outreach Workshops**

- Global Learning and Observation to Benefit the Environment (GLOBE) teacher training & support
- Project WET Educator and Facilitator Training
- Specialty workshops: watersheds, aquatic nuisance species, hazardous waste
- Vessel-based Outreach & Education Program
- K-12 classroom programs
- Air & Waste Management Association Air Quality Teacher Workshops
- Tours of the Lake Michigan Center

### **Other Professional Affiliations (past and present)**

- Secretary, Air & Waste Management Association West Michigan Chapter
- Director, Retired Engineers Technical Assistance Foundation
- Michigan Science Teachers Association (MSTA)
- Ecological Society of America
- International Association for Great Lakes Research
- National Marine Educators Association
- International Association for Great Lakes Research
- Sigma Xi, Scientific Research Society
- Board Member, Lake Michigan Federation
- Public Education Division Chair, Air & Waste Management Association (A&WMA)
- Regulatory Negotiation Team Member, U.S. EPA Wood Furniture Air Quality Standards.
- Education coordinator, West Michigan Clean Air Coalition and WM A&WMA Chapter
- Reviewer: Journal of Chemical Education, A&WMA Environmental Resource Guides, Equity Toolkit Project

### **Representative Grants for Education & Outreach at the Annis Water Resources Institute**

2005	U.S. EPA Making Lake Michigan Great Boat Tour (\$40,000)
2005	Michigan Space Grant Consortium (\$5,000)
2004	U.S. EPA Making Lake Michigan Great Boat Tour (\$20,000)
2004	Michigan Space Grant Consortium (\$5,000)
2004	Nestle Waters (\$8,000)
2004	R.B. Annis Educational Foundation (\$25,000 over five years plus \$2,000)
2004	Air & Waste Management Association Intern Grant (\$1,000)
2003	Michigan Department of Environmental Quality Curriculum Project (\$55,070)
2003	Roosevelt University – Vessel Tour (\$10,000)
2003	U.S. EPA Making Lake Michigan Great Boat Tour & Conference (\$35,000)
2003	Michigan Space Grant Consortium (\$5,000)
2003	Nestle Waters (\$8,000)
2003	Air & Waste Management Association Intern Grant (\$1,000)
2002	U.S. EPA Making Lake Michigan Great Boat Tour (\$15,000)
2002	Nestle Waters (\$8,000)
2002	Michigan Space Grant Consortium (\$3,750)
2002	GLOBE Workshop (\$4,000)
2002	Air & Waste Management Association Intern Grant (\$1,000)
2001	U.S. EPA Making Lake Michigan Great Boat Tour & Conference (\$35,000)

2001 Michigan Space Grant Consortium (\$5,000)  
 2001 Perrier: Project WET Water Festival (\$3,000)  
 2001 GLOBE Workshops (\$4,500)  
 2001-2002 Community Foundation *for* Muskegon County (\$2,500)  
 2001 Air & Waste Management Association Education Grant (\$3,000)  
 2000 Michigan Space Grant Consortium (\$1,425)  
 2000 GLOBE Workshop (\$3,000)  
 2000 Perrier: Project WET Water Festival (\$3,000)  
 2000 Roosevelt University: Vessel Visit (\$11,000)  
 2000 U.S. EPA Making Lake Michigan Great Tour Boat Tour (\$10,000)  
 2000 Waukegan Citizens Advisory Council: Vessel Visit (\$10,000)  
 1999-2002 National Science Foundation (\$90,000)  
 1999 Michigan Space Grant Consortium (\$5,000)  
 1999 GLOBE Workshop (\$3,000)  
 1999-2000 Great Lakes Commission (\$7,000)  
 1998-1999 U.S. EPA Making Lake Michigan Great Boat Tour & Conference (\$45,000)  
 1998-1999 Michigan Dept. of Education: Building a Learning Community through Aquatic Education (\$72,000)  
 1998 SC Johnson Wax Fund Making Lake Michigan Great Boat Tour (\$13,000)  
 1997-1998 Michigan Great Lakes Protection Fund (\$75,000)  
 1997-1998 Michigan Dept. of Education: Building a Learning Community through Aquatic Education (\$75,000)  
 1996 National Science Foundation Equipment Grant (\$59,397)  
 1993-1994 U.S. EPA West Michigan Pollution Prevention Project (\$50,000)  
 1992-1995 MDNR Supplemental Environmental Project Funds (\$250,000)  
 1991 Autocam Corporation Pollution Prevention Program Grant (\$100,000)

**Graduate Advisors**

- Dr. William Schlesinger, Duke University (formerly of the University of California at Santa Barbara)
- Dr. Robert Poel, Western Michigan University, Science Studies, Center for Science Education and Dr. Joseph Engemann, Western Michigan, Department of Biology